

Audio-Technica VM510CB

Audio-Technica VM510CB Dual Moving Magnet Conical Stereo Turntable Cartridge

User Manual

INTRODUCTION

The Audio-Technica VM510CB is a dual moving magnet stereo turntable cartridge designed for accurate sound reproduction. It features a 0.6 mil conical bonded stylus, engineered to track the center of the record groove for reliable performance and high fidelity. This cartridge is part of Audio-Technica's VM cartridge line, incorporating advanced technology for optimal channel separation and extended frequency response. This manual provides essential information for the proper installation, operation, and maintenance of your VM510CB cartridge.

KEY FEATURES

- **Dual Magnet Design:** Matches left and right channels in the stereo record groove for superior channel separation and extended frequency response.
- **Conical Bonded Stylus:** A 0.6 mil conical bonded stylus ensures reliable tracking and excellent fidelity.
- **Paratoroidal Coils:** Engineered to improve generating efficiency.
- **Center Shield Plate:** Reduces crosstalk between the left and right channels.
- **Durable Housing:** Constructed with low-resonance polymer for enhanced sound quality.
- **Aluminum Cantilever:** Provides robust support for the stylus.
- **Mounting Hardware:** Includes necessary hardware for installation.

SETUP AND INSTALLATION

Proper installation of the VM510CB cartridge is crucial for optimal performance. Please follow these

steps carefully. If you are unsure about any step, consult a qualified audio technician or your turntable's instruction manual.

1. Unpacking and Inspection

Carefully remove the cartridge from its packaging. Inspect the stylus for any visible damage. Avoid touching the stylus tip directly.



Image: The VM510CB cartridge viewed from a top-front angle, showing the blue body and gold pins.

2. Mounting the Cartridge

1. Ensure your turntable is powered off and unplugged.
2. If replacing an existing cartridge, carefully remove it from the headshell. Note the wiring connections.
3. Attach the VM510CB cartridge to your turntable's headshell using the supplied mounting hardware (screws and nuts). Do not overtighten the screws initially, as you may need to adjust the cartridge position for alignment.
4. Connect the headshell wires to the corresponding pins on the cartridge. The standard color code is:
 - **White (L+)**: Left channel hot
 - **Blue (L-)**: Left channel ground
 - **Red (R+)**: Right channel hot
 - **Green (R-)**: Right channel ground



Image: The VM510CB cartridge viewed from a side-front angle, showing the blue body, clear stylus guard, and gold connection pins.

3. Cartridge Alignment

Accurate alignment is critical for optimal sound quality and to prevent record wear. This typically involves setting overhang, azimuth, and vertical tracking angle (VTA).

- **Overhang:** Use an alignment protractor (often supplied with your turntable or available separately) to position the cartridge correctly in the headshell. Adjust the cartridge forward or backward until the stylus tip aligns with the designated points on the protractor.
- **Azimuth:** Ensure the cartridge body is parallel to the record surface when viewed from the front. Some headshells allow for azimuth adjustment.
- **Vertical Tracking Angle (VTA):** The tonearm should be parallel to the record surface when the stylus is resting in a groove. Adjust the tonearm height if your turntable allows.
- Once aligned, carefully tighten the mounting screws.

4. Setting Tracking Force

The recommended tracking force for the VM510CB is typically between 1.8 to 2.2 grams. Refer to your turntable's manual for instructions on how to set the tracking force using the tonearm counterweight. An accurate stylus force gauge is recommended for precise adjustment.

5. Setting Anti-Skate

Set the anti-skate (or bias) control on your turntable to match the tracking force. This helps prevent the stylus from being pulled towards the center of the record.

OPERATION

Once installed and properly adjusted, operating the VM510CB cartridge involves standard turntable usage procedures.

1. Ensure your turntable is connected to a phono preamplifier or an amplifier with a dedicated phono input.
2. Place a record on the platter and ensure it is clean.
3. Carefully lower the tonearm onto the record's lead-in groove using the tonearm lift mechanism. Avoid dropping the tonearm directly onto the record.
4. At the end of the record, use the tonearm lift to raise the tonearm and return it to its rest.

5. Always engage the stylus guard when the turntable is not in use or when moving the turntable to protect the stylus.

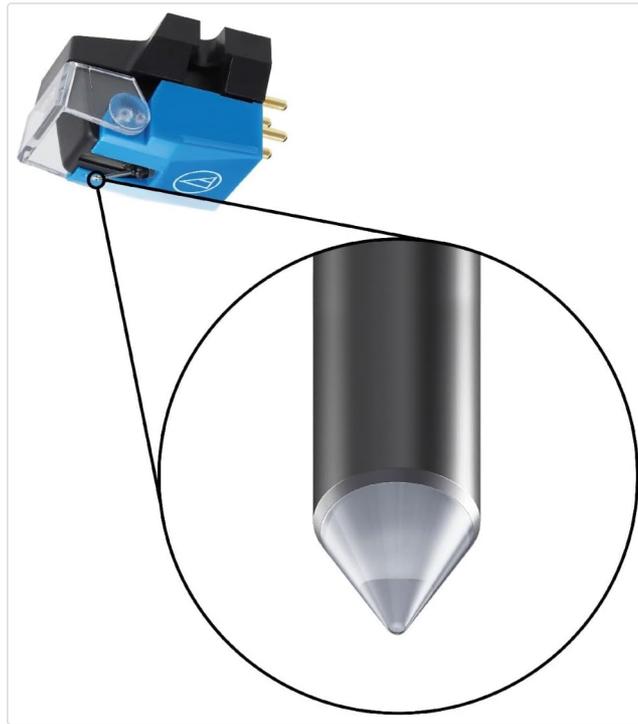


Image: A detailed view of the VM510CB cartridge, highlighting the conical stylus tip with a magnified inset.

MAINTENANCE

Regular maintenance ensures the longevity and optimal performance of your VM510CB cartridge.

- **Stylus Cleaning:** Clean the stylus regularly using a soft stylus brush, brushing gently from back to front (in the direction of play). Never brush from side to side or front to back, as this can damage the stylus. Specialized stylus cleaning fluids can also be used sparingly.
- **Record Cleaning:** Always play clean records. Dust and debris on records can accumulate on the stylus, degrading sound quality and potentially damaging both the stylus and your records.
- **Stylus Replacement:** The stylus is a delicate component that wears down over time. The lifespan of a stylus varies depending on usage and record condition, but typically ranges from 500 to 1000 hours of play. A worn stylus can damage records and degrade sound quality. Replace the stylus with an Audio-Technica VMN10CB replacement stylus when wear is evident or after the recommended playing hours.
- **Cartridge Body Cleaning:** Use a soft, dry cloth to wipe the cartridge body if it becomes dusty. Avoid using harsh chemicals.



Image: A close-up view of the VM510CB cartridge's conical stylus tip, showing its precise shape.

TROUBLESHOOTING

If you encounter issues with your VM510CB cartridge, consider the following common problems and solutions:

- **No Sound or Weak Sound:**

- Check all connections from the cartridge to the headshell, tonearm, and amplifier. Ensure they are secure and correctly wired (L+/L-, R+/R-).
- Verify that your amplifier's input is set to "Phono" and that your phono preamplifier (if external) is powered on.
- Inspect the stylus for damage or excessive dirt.

- **Distorted Sound or Poor Tracking:**

- Re-check the tracking force. It should be within the recommended range (1.8-2.2g).
- Verify cartridge alignment (overhang, azimuth, VTA).
- Clean the stylus. A dirty or worn stylus can cause distortion.
- Ensure records are clean and free of debris.
- Check anti-skate setting.

- **Hum or Buzzing Noise:**

- Ensure the turntable's ground wire is properly connected to your amplifier's ground terminal.
- Check for loose connections in the headshell wiring.
- Move the turntable away from other electronic devices that might cause interference.

- **Skipping:**

- Increase tracking force slightly within the recommended range.
- Inspect the stylus for damage or excessive dirt.
- Ensure the record is flat and clean.
- Check anti-skate setting.

SPECIFICATIONS

Feature	Detail
Model Number	VM510CB
Stylus Type	0.6 mil Conical Bonded
Cartridge Type	Dual Moving Magnet
Recommended Tracking Force	1.8 to 2.2 grams
Product Dimensions	4 x 2 x 3 inches
Item Weight	1.76 ounces (50 Grams)
Material	Aluminum (Cantilever)
Included Components	Cartridge, Mounting Hardware
Compatible Devices	Turntables connected to Desktop, Headphone, Laptop, Personal Computer, Speaker systems (via appropriate pre-amplification)

WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the official Audio-Technica website or contact their customer service department. Keep your purchase receipt as proof of purchase.

Online Support: [Audio-Technica Support](#)